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09/993,504	11/27/2001	Hiroo Matsunaga	Q65011	8148

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SUGHRUE, MION, ZINN, MACPEAK & SEAS
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EXAMINER

MAKI, STEVEN D

ART UNIT PAPER NUMBER

1733

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/993,504

Applicant(s)

MATSUNAGA ET AL.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the scope of "the venting in a portion of a tire placed in a vulcanization mold ... corresponding to the sidewall portion in at least one place in a radial direction of the tire" is ambiguous. What is being vented? Does "the venting" corresponding to said at least one place require venting means / a venting gap at said at least one place? If not, why not?

In claim 1 line 1, --the-- before "vulcanization" should be deleted.

In claim 2, the scope of "a venting gap is arranged in at least one place of the side portion ring in the radial direction so as to extend over a full circumference of the ring and pass through the ring from the inside toward the outside thereof" (emphasis added) is unclear. The above noted literal language of claim 2 appears to exclude the claimed venting gap from being between the side portion ring and the bead portion ring (i.e. exclude the lower venting gap 22 shown in figure 3). It is not clear if applicant intended this narrow claim scope. If the claimed venting gap reads on a venting gap between the side portion ring and the bead portion ring, then it is unclear what is meant by venting gap passing through the side portion ring.

In claim 2 line 1, there is no antecedent basis for "the pneumatic tire".

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In claim 2 line 1, it is suggested to change "the pneumatic tire" to (a) --a pneumatic tire-- or (b) --pneumatic tire comprising a tread portion, a pair of sidewall portions and a pair of bead portions--.

In claim 6, --the-- before "gas" should be deleted since claim 2 does not describe "gas".

3) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Ladouce

5) **Claim 1 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ladouce (US 5798076).**

Ladouce discloses vulcanizing a tire having sidewalls in a mold comprising sector 4, a side support 10 and spirally wound strip 20. At col. 3 lines 1-5, Ladouce teaches forming a clearance J (figure 3) between the convolutions of the strip 20 sufficient to assure a perfect venting at all points of the side shell 1 of the mold. In figure 1, Ladouce illustrates the tire as being a pneumatic tire. The claimed sidewall portions, bead portions and tread portion are inherent in Ladouce's tire. In any event: It would have

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been obvious to one of ordinary skill in the art to provide the tire with sidewall portions, bead portions and tread portion since a tire having sidewall portions, bead portions and tread portion is taken as a well known / conventional type of tire in the tire art.

Caretta or Christof

6) **Claims 1-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caretta (US 3972978) or Christof (US 5141424) in view of at least one of Youngblood et al (US 3467989), Ladouce (US 5798076) and Japan '929 (JP 8-47929).**

Caretta discloses a tire vulcanization mold comprising continuous annular elements (side portion rings) 1, continuous annular elements (bead portion rings) 2 and an intermediate annular section (tread ring) comprising plural sectors (plural segments) 5. Caretta describes the tire as having a tread band and sidewalls. In figure 1, Caretta illustrates the tire as being a pneumatic tire. Caretta uses the tire mold to cure (vulcanize) the tire. The side portion ring and the bead portion ring can separate for discharging the tire from the mold.

Christof discloses a vulcanization mold comprising side portion rings, bead portion rings and a tread ring comprising segments. See figure 1. Also, Christof shows the side portion ring and bead portion ring as being "integrally united".

As to claims 1 and 2, it would have been obvious to provide Caretta's tire mold or Christof's tire mold with the claimed **venting gap which extends over a full circumference of the side portion ring** in view of at least one of (a) Youngblood et al's suggestion to form a continuous circumferential groove at the junction between a side

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portion 2a, 2b and a bead portion 6a, 6b of a tire mold to prevent gas from being trapped between the tire and the inner mold surface, (b) Ladouce's suggestion to form a continuous spiral (circumferentially extending) clearance J between adjacent convolutions of a strip 20 to assure venting and thereby prevent a molding defect caused by imprisoned air between the tire and the mold and (c) Japan '929's suggestion to shape the inner side surface of a tire mold so as to define a pair of "circumferentially extending depressions" connected to vent holes 12, 13 (see figure 2) to smoothly discharge air existing between the tire and the mold and thereby avoid a rubber deficit requiring discarding of the tire (see machine translation). Hence: Caretta or Christof disclose the basic structure of the claimed mold. Although Caretta / Christof do not recite a venting gap, the secondary art to Youngblood, Ladouce, Japan '929 provide ample motivation to provide the tire mold of Caretta / Christof with a venting gap to prevent the art recognized problem of trapped air between the tire and the mold - only the expected results (prevention of defective molded tires) being obtained. The claimed venting gap reads on (a) the circumferential groove 9 suggested by Youngblood, (b) the spiral clearance J suggested by Ladouce or (c) the circumferential depressions in the sidewall of the mold suggested by Japan '929. Claim 2 reads on and fails to exclude using vent holes to communicate the venting gap to the outside of the mold. As to Youngblood et al, it is emphasized that Youngblood et al recognizes that the use of circumferential venting grooves permits elimination of hundreds of vent holes. This benefit corresponds to applicant's disclosed benefit at specification page 2 lines 28-29.

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As to claim 1, the claimed sidewall portions, bead portions and tread portion are inherent in Caretta's tire or Christof's tire. In any event: It would have been obvious to one of ordinary skill in the art to provide the tire with sidewall portions, bead portions and tread portion since a tire having sidewall portions, bead portions and tread portion is taken as a well known / conventional type of tire in the tire art.

As to the dependent claims: As to claims 3 and 4, the claimed position of the venting gap would have been obvious in view of the various locations for venting suggested by at least one of Youngblood, Ladouce or Japan '929. As to tire structure described in 3 and 4, a pneumatic tire having a "bead guard" and a turnup end is taken as well known / conventional. As such, it would have been obvious to shape the inner surface of Caretta's mold or Christof's mold so that it can form such a well known / conventional tire so that the tire made using the mold advantageously has a bead guard. As to claim 5, the claimed clearance of 10-30 micrometers is suggested by Ladouce (at col. 3 line 7, Ladouce suggests a clearance of less than 0.03 mm (less than 30 micrometers)). As to claim 6, it would have been obvious to add the claimed fine grooves since Youngblood suggests further facilitating venting by using radially extending sidewall flutes 15 in communication with circumferential groove 9a. As to claim 7, note the suggestion from Youngblood et al to vent between a side portion 2a, 2b and a bead portion 6a, 6b of a tire mold and Christof's integrally united rings. As to claim 9, note Japan '929's suggestion to form the "circumferentially extending depressions" which are illustrated as being generally triangular in figure 1.

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Allowable Subject Matter

7) **Claims 8 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.**

Although Soulalioux (US 6017206) teaches using spring like means to separate elements 10 for forming a tread pattern to assure venting, there is no motivation in the prior art of record to further modify Caretta's tire mold or Chistof's mold so as to satisfy the additional specific limitation as set forth in claim 8.

Remarks

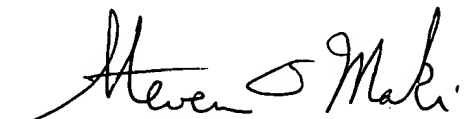
8) The remaining references are of interest.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
September 26, 2003


STEVEN D. MAKI
PRIMARY EXAMINER
-GROUP 1300
9-26-03
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